

Sterling-Power-USA

Waterproof Battery-to-Battery Chargers

Why wait to arrive at your destination to plug in your battery charger? With the Sterling Power "ProCharge-B" Waterproof Battery-to-Battery Charger you can provide true multi-stage charging to any auxiliary bank of batteries by using any running vehicles start battery system when that start battery system rises to or above 13.3v. Choose from a variety of input / output configurations to accommodate various charging needs including:

12v to 12v

12v to 24v

12v to 36v

24v to 24v

The ProCharge-B is an IP68 waterproof, on-board multi-stage battery charger that runs while your RV, boat or truck is in use. It's a waterproof battery charger for your auxiliary battery that receives surplus input power from a vehicle's starting battery (only when the starter is being charged from an alternator/charger) or tow harness. **As the vehicle engine runs, so does this onboard multi-stage battery charger.** Charge your trolling motor or bow thruster batteries on the water when your boat's engine is running, or charge the battery of any vehicle in tow by utilizing the truck's starting battery while towing the boat down the road.

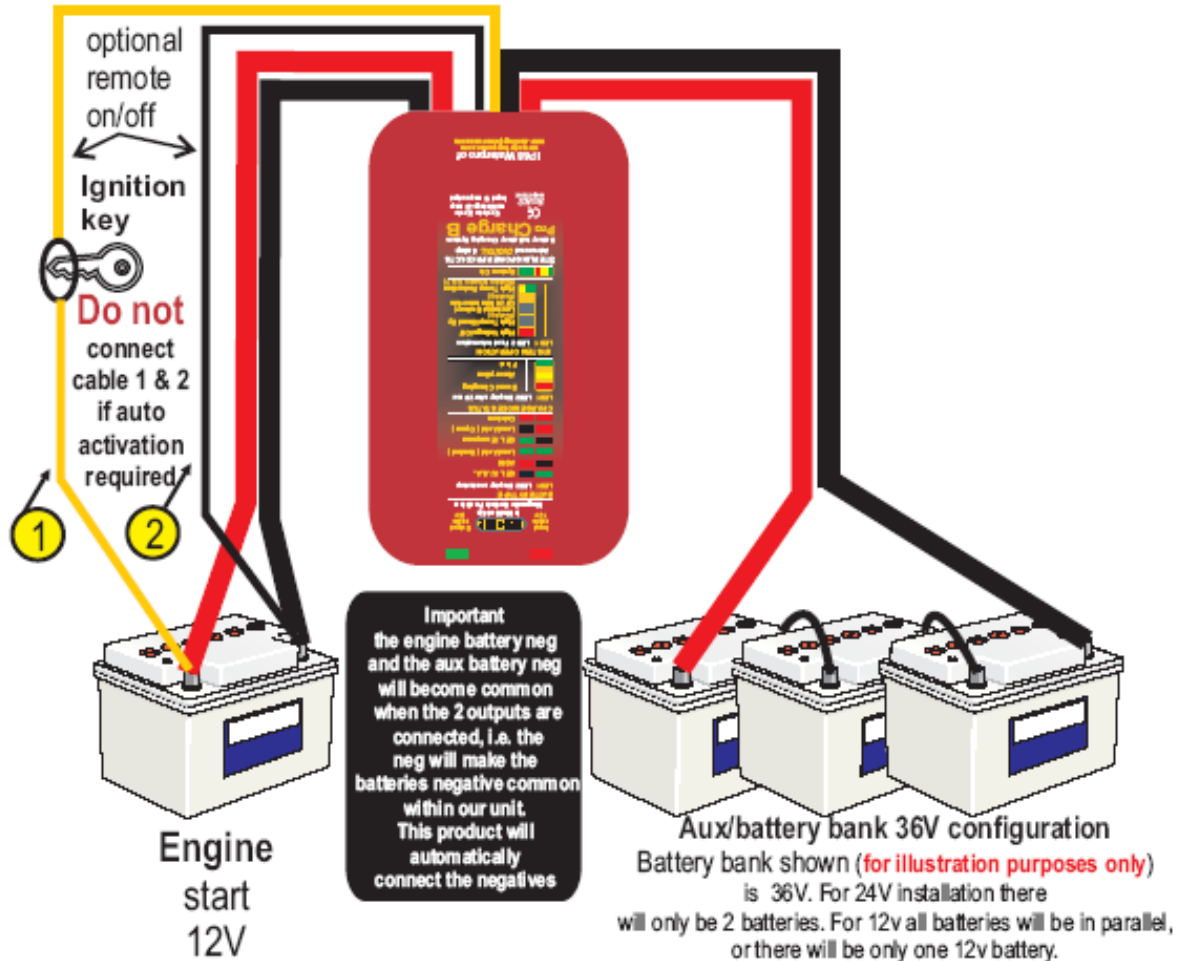


- ✓ Charge Everywhere: Charge and recover your auxiliary batteries while on the water or driving down the road using **surplus** current from your alternator via your starter battery. Turns on if input voltage is 13.3v or above, turns off if input below 13.1V, so it **will not drain** your input battery.
- ✓ **Quick & Easy to Install.** Installation requires no modification to the primary electrical system, resulting in no vehicle warranty issues as you are not connected to the main system.
- ✓ Comes prewired with waterproof fuses and 2 meters of cable for safe and simple installation on all types of vehicles and engines.
- ✓ Simply connect the input cables to a 12V starting battery, and connect output cables to the battery or bank of batteries you wish to charge. The ProCharge-B will take care of the rest with multi-stage battery charging that will go to true bulk, absorption and float voltages.
- ✓ Worry free charging of your auxiliary batteries on the water or on the road, virtually in any vehicle with input of a 12V starting battery system.
- ✓ Charge a 24V trolling motor bank off a 12V outboard starting battery, and spend time fishing, not worrying about whether you have enough power to last the day on the water. Powering a 24V bow thruster bank off a 12V starting battery is another great application.
- ✓ Charge one house bank off of twin outboards by running a unit off each outboard starting battery.
- ✓ Will also run if the engine start battery is being charged by a battery charger, or while a boat or RV is connected to shore power.
- ✓ Can also be powered by a tow vehicle allowing the unit to operate while towing a camper or boat on a trailer.
- ✓ If desired, you can override the automatic turn on feature, and use the optional manual switch leads included.
- ✓ IP68 rated housing makes this unit impervious to shock, dust and immersion in water up to 1 meter.
- ✓ Built in On-Board Protection- **reverse polarity, ignition & thermal current cutback temperature protection.**
- ✓ **Multi-stage Battery charging profile extends the life of your batteries** by ensuring a full charge & conditioning, as well as entering a float mode when charging is complete to **protect against overcharging your batteries.**
- ✓ **Ability to mix** on board battery types. Output charge profile is user programmable, so the output & input batteries can be different types.
- ✓ Can charge GEL, AGM or Flooded lead acid batteries. Selection of charge profile controlled with a magnetic user selectable switch.
- ✓ At-a-glance LED charging & power indicator.
- ✓ 12V input to 24V output in stock. Please note 12V input to 12V output, 12V input to 36V output and 24V input to 24V output available soon.
- ✓ Output limited in current to approximately 30A for 30 minutes & approximately 20A continuous output after (current and duration estimates due to application, temperature, input battery and output battery variances) (NOTE: This output spec is at 12 volts, half the values for 24v output etc.)
- ✓ Designed and developed in England, made in Taiwan. CE and RoHS compliant. **2 year warranty.**

Engine Start Battery Voltage (input side)	Auxiliary Battery Voltage (output side)	Unit Size (LxWxH)	Weight	Part #
12v	12v	9"x6"x2"	8.5 lbs.	BBW1212
12v	24v	9"x6"x2"	8.5 lbs.	BBW1224
12v	36v	9"x6"x2"	9.0 lbs.	BBW1236
24v	24v	9"x6"x2"	9.0 lbs.	BBW2424



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	Charge	Time on High Charge	Float
1) gel USA	14.0 V	1 - 10 hrs	13.7V
2) AGM 1 USA	14.35 V	1 - 8 hrs	13.35V
3) sealed lead acid	All Voltages 14.4 V	1 - 12 hrs	13.6V
4) gel euro	x 2 for 24 v 14.4 V	12 - 24 hrs	13.8V
5) open lead acid	x 3 for 36 v 14.8 V	1 - 8 hrs	13.3V
6) calcium/calcium	15.1 V	1 - 6 hrs	13.6V

Engine Start Battery Voltage (input side)	Auxiliary Battery Voltage (output side)	Unit Size (LxWxH)	Weight	Part #
12v	12v	9"x6"x2"	8.5 lbs.	BBW1212
12v	24v	9"x6"x2"	8.5 lbs.	BBW1224
12v	36v	9"x6"x2"	9.0 lbs.	BBW1236
24v	24v	9"x6"x2"	9.0 lbs.	BBW2424

Sterling-Power-USA

ProCharge Ultra- The Ultimate Battery Charger

UL approved - Our new line of **Marine Grade, Power Factor Corrected Battery Chargers** set a new standard of what you should expect from your battery charger when it comes to features, performance & price. Years of experience in the battery charging industry has provided us the insight to include everything we could possibly think of and combine it all into the **Pro Charge Ultra** line of feature rich, high performance marine grade battery chargers. This exceptionally efficient power factor corrected battery charger runs on any Global AC Power source between 90-260 volts, requires less input power, produces less waste heat, and still has a remarkably small footprint and is lightweight. Did we mention 11 pre-programmed charging curves as well as one user customizable battery profile? Check the real time voltage or current output on the digital display or on the optional remote control that can be either surface, recess, or flush mounted over 30 feet away from the battery charger. Additional features include:

- ✓ **Global Input Power-** This battery charger will operate anywhere in the world! By design, this battery charger will operate with an a/c input of 90-260 volts (40-80 Hz) automatically.
- ✓ 11 Pre-programmed battery charge curves, including LiFePO₄, GEL, AGM, Calcium, & Flooded Lead Acid Batteries.
- ✓ One custom, **user programmable** battery charge profile. Can be set from the charger, no need for a computer.
- ✓ **Four Step Battery Charging Profile extends the life of your batteries** by ensuring a full charge & conditioning, as well as entering a float mode when charging is complete to **protect against overcharging your batteries.**
- ✓ One common negative, three positive battery posts allows the user to charge 1, 2 or 3 battery banks.
- ✓ Two Digital Meters displaying real time current and voltage measurements.
- ✓ One power meter showing % of charger capacity being used as well as power capacity remaining.
- ✓ Active Power Factor Correction (PFC) up to 0.99pf, ensuring efficient power conversion, increasing efficiency by nearly 40% over non-PFC battery chargers.
- ✓ Additionally, new synchronized rectification output increases the efficiency of this charger up to 10% over traditional chargers.
- ✓ High Voltage de-sulfation cycle for customers with flooded lead acid batteries.
- ✓ Low activity, stand-by mode to increase battery life.
- ✓ Digital Microprocessor Controlled High Voltage Protection System (Primary) & emergency backup analog high voltage trip (Secondary)
- ✓ Constructed of non-ferrous metals and marine grade materials. Lightweight, Compact footprint for easy installation.
- ✓ Designed and built to **UL1236 Marine & ABYC-31** standards.
- ✓ 32 LED Information Panel, internal scan and systems check & battery temperature sensor included.
- ✓ Remote port for optional remote control w/ 10 meter cable. Remote (part # PCUR) can be surface, flush, or recess mounted.
- ✓ Recipient of the 2011 Pittman Innovation Award. Additionally, winner of "Premium Product Award" in a recent battery charger test among industry leaders. This product review can be found in the September 2010 'Sailing Today' magazine issue & compares multi-stage marine battery chargers from Sterling Power, Xantrex, C-Tek, Mastervolt, Victron, ProMariner & Waeco. Please visit our website to read the article.



(Read Additional Details Below)



Voltage	Amperage Out	# of Outputs	Unit Size (LxWxH)	Weight	Part #
12v	10 amps	2 outputs	10.5"x8.5"x3.75"	5.2 lbs.	PCU1210
12v	20 amps	3 outputs	10.5"x8.5"x3.75"	5.2 lbs.	PCU1220
12v	30 amps	3 outputs	10.5"x8.5"x3.75"	5.2 lbs.	PCU1230
12v	40 amps	3 outputs	10.5"x8.5"x3.75"	5.7 lbs.	PCU1240
12v	50 amps	3 outputs	12.5"x8.5"x3.75"	7.7 lbs.	PCU1250
12v	60 amps	3 outputs	12.5"x8.5"x3.75"	7.7 lbs.	PCU1260
24v	20 amps	3 outputs	10.5"x8.5"x3.75"	5.7 lbs.	PCU2420
24v	30 amps	3 outputs	12.5"x8.5"x3.75"	7.7 lbs.	PCU2430

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Waterproof Battery Chargers IP68

AQUANAUTIC Water proof range

8amp – 20amp PFC

WATERPROOF
and
SALTWATER
TESTED
IP68

- ✓ Lead acid sealed (AGM/Gel) battery selectable for max performance.
- ✓ Fully waterproof IP68, Ideal for boats exposed to splash or wash down.
- ✓ Both pos and neg. are fully isolated, enables 12V or 24V or 36v bank charging.
- ✓ Adaptive charging ensures max charge in the batteries.
- ✓ Extruded aluminum housing.
- ✓ Dynamic thermal output control.
- ✓ LED power and charge indicators.
- ✓ Built in protection distributed on demand.
- ✓ 4 stage charging curve, charge and condition batteries
- ✓ Pre wired waterproof loom for easy installation.
- ✓ Pre fused and gold plated terminals.
- ✓ Ignition protected, ideal for all boats.
- ✓ Available in up to 3 isolated output models
- ✓ Power Factor Corrected - 110-230 V A/C auto 40-70 Hz –
- ✓ 2 year warranty



Product	Battery Voltage	Input Voltage	Unit Size(LxWxH)	Weight	Part #
8 amp, 1 bank	12V	110v – 230v auto	6.8" x 7" x 2.5"	6.25 lbs.	PSP1281
8 amp, 2 bank	12V or 24V	110v – 230v auto	6.8" x 7" x 2.5"	6.25 lbs.	PSP1282
12 amp, 1 bank	12V	110v – 230v auto	7.5" x 7" x 2.5"	7.0 lbs.	PSP12121
12 amp, 2 bank	12V or 24V	110v – 230v auto	7.5" x 7" x 2.5"	7.0 lbs.	PSP12122
20 amp, 1 bank	12v	110v -230v auto	11.5" x 7" x 2.5"	8.5 lbs.	PSP12201
20 amp, 2 bank	12v or 24v	110v -230v auto	11.5" x 7" x 2.5"	8.5 lbs.	PSP12202
20 amp, 3 bank	12v or 24v or 36v	110v -230v auto	11.5" x 7" x 2.5"	8.5 lbs.	PSP12203

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Sterling Power Advanced Alternator Regulators

Why wait to arrive at your destination to plug in your battery charger? Standard alternators are not designed to be good battery chargers, their flat voltage outputs make alternators inherently bad at recovering auxiliary battery banks. With a Sterling Power Advanced Alternator Regulator you can convert the constant voltage output of a standard vehicles alternator into a 4-stage progressive constant current battery charging profile. This high performance, marine grade alternator regulator **recovers your house battery bank five times faster than using just a standard alternator!** Extend the life of your batteries by fully charging & conditioning them.



- ✓ **Small in size. Big in charging results.**
- ✓ Our Lowest cost solution to advanced 4 step charging on the go.
- ✓ Sterling Power Advanced Alternator Regulators allow you to change the standard output of your alternator into a four step charge profile.
- ✓ Our Four Step Battery Charging Profile extends the life of your batteries by fully charging and conditioning your batteries, as well as entering a float mode when charging is complete to protect against overcharging your batteries.
- ✓ Advanced 4 step charging algorithm provides a charging rate that recovers your batteries up to five times faster than from a standard alternator.
- ✓ Unlike other Advanced Regulator packages on the market our advanced regulators will work with your existing engine alternator. You don't have to buy a new alternator as part of the installation. No pulley changing, no new bracket building.
- ✓ When installed in conjunction with our ProSplit-R Zero Drop Battery Isolator Product Line, you can provide advanced 4 step charging to all of your battery banks from your alternator, without the risk of any one of your battery banks discharging the others.
- ✓ Four different battery charging profiles are selectable: Open lead acid, closed lead acid, AGM and GEL.
- ✓ Will work with 12 volt system and positive or negative field inputs.
- ✓ Supplied with a battery temperature sensor to provide battery temperature compensation.
- ✓ The ProReg-D model has an optional remote, 12 or 24 volt capability and an alternator temperature sensor.

Product	Alternator Voltage	Max Alternator Amps	Unit Size(LxWxH)	Weight	Part #
ProReg-B	12v	90 amps	5" x 3" x 2"	.5 lbs.	AR12V
ProReg-D	12v or 24v	200 amps	6.5" x 3.5" x 2.5"	1.5 lbs.	PDAR
Remote Control	(For Use w/ a ProReg-D only)		Remote Includes a 10 meter cable		PDARRC

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Pro Split R – Zero Voltage Drop Isolator

ProSplit R is an advanced alternator distribution & power management device. It has been developed specifically to deal with the complex nature of modern multi battery systems in boats and vehicles.

Key features of the **ProSplit R**

Truly zero voltage drop – many competitors claim to be 0V drop but fail to achieve it under testing, especially when it's paramount (with heavy loads).

Models currently available with 1 or 2 alternator inputs & two, three or four battery bank outputs.

Complex software with 1000 lines of code ensures charging priorities (prioritizing the engine start battery).

Unlike conventional Voltage Sensitive Relays (VSR's), The **ProSplit R** has the ability to identify any reverse current or over-voltage conditions and disconnect individual batteries to avoid damage or discharge.



Principal features of the **ProSplit R**

- ✓ Distributes power according to need.
- ✓ Individually isolates a battery bank immediately upon detection of reverse feed to prevent discharge.
- ✓ Isolates all except the main battery bank in the event of high load discharge.
- ✓ In the event of alternator &/or regulator failure the **ProSplit R** will disconnect input to prevent batteries from overcharge.
- ✓ It isolates any batteries where high voltage is present, for example, caused by a separate battery charger.
- ✓ An LED display shows status of all channels, whether in use or not, and provides alarm status information.
- ✓ An Industrial rating capable of sustaining massive overload conditions.
- ✓ A Fail-safe; In the event of device failure, alternator and engine start batteries remain connected.
- ✓ IP66 waterproof rating.
- ✓ An integrated current limiting feature to prevent overload and short circuit.
- ✓ An 'Ignition on' sense connection.

Alt. Volts	Max Alt Amps	Output batt. bank	Unit Size (LxWxH) inch	Weight	Part #
12V	120A	2 out	6 x 3.2 x 4.8	1.32 lbs	PSR122
12V	180 A	2 out	6 x 3.2 x 5.6	1.54 lbs	PSR182
12V	230 A	2 out	6 x 3.2 x 6.2	2.2 lbs	PSR252
12V	120 A	3 out	6 x 3.2 x 5.2	1.98 lbs	PSR123
12V	180 A	3 out	6 x 3.2 x 7.0	2.2 lbs	PSR183
12V	230 A	3 out	6 x 3.2 x 8.8	2.86 lbs	PSR253
12V	Twin 130 A	4 out	6 x 3.2 x 11.8	3.96 lbs	PSRT134
24V	60	2 out	6 x 3.2 x 4.8	1.32 lbs	PSR62
24V	100	2 out	6 x 3.2 x 5.6	1.54 lbs	PSR102
24V	150	2 out	6 x 3.2 x 6.6	2.64 lbs	PSR152
24V	240	2 out	6 x 3.2 x 10.0	3.74 lbs	PSR242
24V	60	3 out	6 x 3.2 x 6.0	1.54 lbs	PSR63
24V	100	3 out	6 x 3.2 x 7.0	2.20 lbs	PSR103
24V	150	3 out	6 x 3.2 x 8.8	2.86 lbs	PSR153
24V	Twin 80	4 out	6 x 3.2 x 11.8	3.96 lbs	PSRT84

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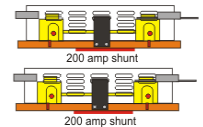
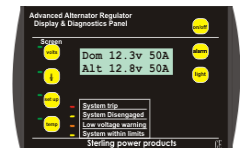
Sterling Power Alternator-to-Battery Chargers

Why wait to arrive at your destination to plug in your battery charger? With the Sterling Power Alternator-to-Battery Charger you can transform the output of your alternator into a calculated 4 step charging profile. Now you can provide a 4-step charging profile to your auxiliary batteries with up to 200 amps from your alternator, **without being plugged into shore power!**

The Sterling Power Alternator-to-Battery Charger is a Marine grade, high performance, four step battery charger powered by your alternator. By monitoring and then controlling the voltage level of the alternator connected to the input side, the alt-to-bat is able to provide a full multi-stage charge rate that **recovers your house battery bank five times faster than using just a standard alternator!**



- ✓ **Four Step Battery Charging Profile extends the life of your batteries** by ensuring a full charge & conditioning, as well as entering a float mode when charging is complete to **protect against overcharging your batteries.**
- ✓ Monitors and ensures starting battery is not overcharged and is at proper charging voltage **while providing maximum available charge in a 4 step charging profile to the auxiliary bank of batteries.**
- ✓ Charges GEL, AGM, FLA, Calcium and LiPo4 Batteries.
- ✓ **Ability to mix** on board battery types.
- ✓ Easy to install, wired in place of a standard alternator to battery isolator. No modification of alternator is required
- ✓ Available in 12 volt / 130, 160 and 210 amp output.
- ✓ Available in 24 volt / 100, 150 and 200 amp output.
- ✓ Battery and Alternator temperature sensing standard when temperature sensors included w/ product are used.
- ✓ Remote Control including two 200 amp shunts (optional)



Alternator Voltage	Max Alternator Amps	Unit Size(LxWxH)	Weight	Part #
12v	130 amps	11"x8"x3"	5.5 lbs.	AB12130
12v	160 amps	10"x11"x3"	8.0 lbs.	AB12160
12v	210 amps	10"x11"x3"	8.0 lbs.	AB12210
24v	100 amps	10"x11"x3"	8.0 lbs.	AB24100
24v	150 amps	10"x11"x3"	8.0 lbs.	AB24150
24v	200 amps	10"x11"x3"	8.0 lbs.	AB24200
Remote Control	Remote Includes two 200 amp shunts plus a 10 meter cable			ABRC

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Sterling Power Battery-to-Battery Chargers

Why wait to arrive at your destination to plug in your battery charger?

With the Sterling Power Battery-to-Battery Charger you can charge a 12v or a 24v Auxiliary Bank of Batteries from your starting battery. Choose from a variety of configurations to accommodate various power needs including:

12v to 24v

24v to 12v

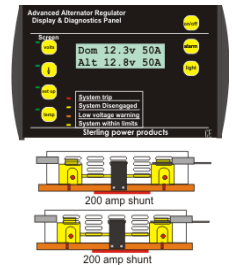
12v to 12v

24v to 24v

This on-board offering of battery-to-battery chargers is able to provide a calculated 4 step charging profile to your batteries **without being plugged into shore power!** By monitoring and then controlling the voltage level of the alternator connected to the input side, the alt-to-bat is able to provide a full multi-stage charge rate that **recovers your house battery bank five times faster than using just a standard alternator!** The unit constantly monitors and ensures the starting battery on the input side is never under or overcharged & only then does it direct the vehicles alternator into providing surplus power it can convert into a user selectable battery charging profile that is appropriate for your batteries.



- ✓ **Quick and Easy to Install.** Installation requires no modification to the primary electrical system, resulting in no vehicle warranty issues as you are not connected to the main system.
- ✓ By monitoring and then controlling the charge level of the engine battery connected to its input side, the Battery-to-Battery charger is able to **provide the output batteries a four-step charging algorithm at amperage levels near full alternator output capacity.**
- ✓ This allows the flexibility of charging of your auxiliary batteries while underway or while your engine battery charger is plugged in at the dock.
- ✓ Recover your batteries up to five times faster than a standard alternator.
- ✓ **Four Step Battery Charging Profile extends the life of your batteries** by ensuring a full charge & conditioning, as well as entering a float mode when charging is complete to **protect against overcharging your batteries.**
- ✓ **Ability to mix** on board battery types.
- ✓ Can charge GEL, AGM or Flooded Lead Acid batteries.
- ✓ Available in 12 volt input to 24 volt output: For 12 volt engines to charge a 24 volt bow thruster bank.
- ✓ Available in 24volt input to 12 volt output: For 24 volt engines to charge a 12 volt electronics or house bank.
- ✓ Available in 12 volt input to 12 volt output: For 12 volt engines to charge a 12 volt house bank.
- ✓ Available in 24 volt input to 24 volt output: For 24 volt engines to charge a 24 volt inverter or bow thruster bank.
- ✓ Optional Remote Available. Remote Displays Input and Output Current and Voltages of Batteries, Faults, etc.



Engine Start Battery Voltage (input side)	Auxiliary Battery Voltage (output side)	Unit Size (LxWxH)	Weight	Max Output Amps	Part #
12v	12v	10"x11"x3"	8.0 lbs.	40 amps	BB121245
12v	24v	10"x11"x3"	8.0 lbs.	20 amps	BB122445
24v	12v	10"x11"x3"	8.0 lbs.	40 amps	BB241225
24v	24v	10"x11"x3"	8.0 lbs.	20 amps	BB242425
Remote Control	Includes 10 meter cable & internal shunts for current measurement				BBRC

Sterling-Power-USA

Sterling Power Combination Inverter Chargers

Sometimes it pays to keep things simple! The Sterling Power ProCombi-Q and ProCombi-S range of Combination Inverter Battery Chargers are straightforward, powerful & available in a variety of power configurations to meet the power demands placed on your Boat, RV, Camper or Utility Vehicle. With the three functions of Inverter, Battery Charger and 30amp automatic crossover switch in one unit, the **ProCombi-Q** and **ProCombi-S** are the perfect alternative to separate components where space, simplicity and ease of installation are key considerations.

The ProCombi models are available in either Quasi-sinewave (**ProCombi-Q**) or True Sine-wave (**ProCombi-S**) models. The battery charger found inside this unit is an advanced Power Factor Corrected, Marine grade, multi-step battery charger designed to provide max charging output while drawing the least amount of input current!



Voted **"best buy"** In 'Sailing Today' Combi Test, March 2008 Issue. Compared to Mastervolt, Victron, Studer & Powermaster.



- ✓ Provide your boat or motor-home 120VAC from your battery bank while you are mobile.
- ✓ Charge your batteries & convert battery power into household 120VAC with the same unit.
- ✓ Can charge GEL, AGM, FLA & Calcium batteries with a user adjustable battery profile selector switch.
- ✓ Modified (**ProCombi-Q**) or Pure Sine-wave (**ProCombi-S**) models from **1,600 to 2,500 watts**.
- ✓ **12 volt** and **24 volt** models available.
- ✓ Power Factor Corrected (PFC) Multi-Stage Battery Charger provides extremely efficient battery charging.
- ✓ **60 hz 120 volt** and **50hz 230 volt** AC output available.
- ✓ Automatic 30 amp crossover "Pass-Through" relay.
- ✓ Removable control panel for remote mounting, 10 meter cable included.
- ✓ Very low no-load and operating energy consumption.
- ✓ Comprehensive status and alarm LED display.
- ✓ Compliant w/ CE and UL standards

Model	Input voltage	Inverter Power (watts)	Output Voltage	Charger Amps	Part number
ProCombi-Q (Quasi or Modified Sine Wave)	12 volts DC	1600w	120 vac	40A	UPCQ121600
ProCombi-Q (Quasi or Modified Sine Wave)	12 volts DC	2500w	120 vac	55A	UPCQ122500
ProCombi-Q (Quasi or Modified Sine Wave)	24 volts DC	1600w	120 vac	20A	UPCQ241600
ProCombi-Q (Quasi or Modified Sine Wave)	24 volts DC	2500w	120 vac	25A	UPCQ242500
ProCombi-Q (Quasi or Modified Sine Wave)	12 volts DC	1600w	230 vac	40A	PCQ 121600
ProCombi-Q (Quasi or Modified Sine Wave)	12 volts DC	2500w	230 vac	55A	PCQ 122500
ProCombi-Q (Quasi or Modified Sine Wave)	24 volts DC	2500w	230 vac	25A	PCQ 242500
ProCombi-S (Pure Sine Wave)	12 volts DC	2500w	120 vac	55A	UPCS122500
ProCombi-S (Pure Sine Wave)	24 volts DC	2500w	120 vac	30A	UPCS242500
ProCombi-S (Pure Sine Wave)	12 volts DC	2500w	230 vac	55A	PCS 122500

Sterling-Power-USA

Pro Connect - Battery Relays, for All Demands

Sterling Power Introduces three lines of IP65 waterproof relays: Ignition Feed, VSRs & CVSRs

Pro Con IF Ignition Feed

Simplest in the range, allows the linking of as many battery banks to suit your needs.

Advantages over standard relay are:

- ✓ Standard relays consumes 0.5A, the **Pro Con IF** only requires 1mA of current.
- ✓ The **Pro Con IF** also overcomes the voltage drop across the ignition cable.
- ✓ Waterproof IP66, in a new, safer package.
- ✓ ANTI-spark protection, brass terminals and gold plated bolts.
- ✓ 30 second start up time delay – prevents relay turning on during engine starting.

Limitations – requires an ignition feed + it is not current limiting.

Ideal for outboard motors and simple cabin batteries where the auxiliary battery load is not in excess of the relay rating. The **Pro Con IF** connects auxiliary battery banks when the engine is running, and also prevents current from flowing back the way it came.



Pro Con VSR Voltage Sensitive Relays

Advantages of the VSR over the Pro Con IF

- ✓ 12 Volt or 24 Volt automatic voltage selection.
- ✓ Totally automatic operation - *does not require ignition feed*. When the primary battery exceeds 13.3v the VSR assumes that the charging device (engine/alternator) is active and engages relay to connect mains to the auxiliary battery bank(s) to charge. When the voltage of the primary drops down to 12.9v the relay disengages and prompts the charging of the primary battery, hence 'voltage sensitive'.
- ✓ The VSR therefore '**saves the day**', when the engine is 'off' and you attempt to run a 2000W appliance (bow thruster/anchor winch) from a depleted auxiliary battery bank the relay will latch and prevent you withdrawing circa 200A of current from the primary (engine starter battery), thus engine starting is always possible.
- ✓ Bi-directional charging, this functional allows the charging from primary to auxiliary and vice versa allowing the maintenance of potentially 13.3v on all banks.
- ✓ Auto 12/24v selection, if it senses **4v to 16V = 12V & 16v to 30V = 24V**
- ✓ Very easy to install.
- ✓ Ideal for charging a secondary battery bank from a battery charger with only one output such as: a combined inverter/charger (ProCombi).



Sterling-Power-USA

Pro Con CVSR Current Limiting Voltage Sensitive Relays



Our top of the line, best in class relay available.

Advantages of the Pro CVSR line over the Pro VSR

Pro Con VSR 'saves the day' (previous page)– The ProCon VSR switches 'off' to save the primary battery, whereas, the CVSR drops the 200A surge to 6A (safe) and shall reopen circuit at a 6A load, thus protecting the relay and your installation. When the high load demand is removed then the relay re-engages.

Sterling Power IP65 rated Pro Connect Relays	IF	VSR	CVSR
0.01 volt drop	+	+	+
Ignition feed (not always required)	+	+	+
Water proof to IP65	+	+	+
SAEJ1171 ignition protected	+	+	+
High overload surge rating	+	+	+
Back EMF spark arrester	+	+	+
1 LED information display	+		
Remote LED connection	+	+	+
No ignition feed voltage drop	+	+	+
Suppression diodes across relay to prolong life	+	+	+
Time delay to prevent engine starter damage	+	+	+
Single & Twin Starter motor disengage connections	+	+	+
12 V and 24 V automatic selection		+	+
Extremely Low Quiescent current approx 1 mA		+	+
Custom Voltage adjustment parameters available		+	+
Active progressive disconnect algorithm		+	+
Automatic voltage activation		+	+
Automatic voltage de activation		+	+
Protects primary battery from discharge		+	+
Emergency auxiliary forced activation		+	+
High battery voltage trip protection		+	+
5 LED information display		+	+
5 alarm functions and safety trips plus information		+	+
Adjustable relay trigger side operation		+	+
Short circuit protection (prior to engagement)		+	+
Current limiting protection			+

Pro Connect IF

Input V D/C	Amps	Unit Size (LxWxH) inch	Weight	Part #
12V	80 A	5.6 x 2.4 x 1.6	0.55 lbs	IFR1280
12V	160 A	5.6 x 2.4 x 1.6	0.65 lbs	IFR12160
12V	240 A	5.6 x 2.8 x 1.6	0.65 lbs	IFR12240
24V	50 A	5.6 x 2.4 x 1.6	0.55 lbs	IFR12240
24V	160 A	5.6 x 2.4 x 1.6	0.65 lbs	IFR2450
24V	240 A	5.6 x 2.8 x 1.6	0.65 lbs	IFR24150

Pro Connect VSR

Input V D/C	Amps	Unit Size (LxWxH) inch	Weight	Part #
12 & 24 AUTO	80 A	5.6 x 7.6 x 1.6	0.22 lbs	VSR80
12 & 24 AUTO	160 A	5.6 x 7.2 x 1.6	0.44 lbs	VSR160
12 & 24 AUTO	240 A	5.6 x 8.0 x 1.6	0.55 lbs	VSR240

Pro Connect CVSR

Input V D/C	Amps	Unit Size (LxWxH) inch	Weight	Part #
12 & 24 AUTO	70 A	5.6 x 5.6 x 1.6	0.1 lbs	CVSR70
12 & 24 AUTO	140 A	5.6 x 5.6 x 1.6	0.2 lbs	CVSR140
12 & 24 AUTO	210 A	5.6 x 7.2 x 1.6	0.25 lbs	CVSR210
12 & 24 AUTO	280 A	5.6 x 7.2 x 1.6	0.25 lbs	CVSR280

Sterling-Power-USA

Power Management Panel

The Power Management Panel is an extremely effective unit designed to monitor and display all the vital electrical information onboard.

It provides general on-board D/C electrical power management and enables important, potentially expensive, decisions to be made regarding faults and this information obtained also helps any third party engineer to identify problems.

The operation of the panel is based on 100 mV shunts. Shunts enable all current measurement to take place remotely from the instrument clusters, thus removing all the voltage drop and R.F.I. problems associated with running heavy duty cables up to a control panel and navigation instruments.

The panel has a built in amp hour counter on one channel and in total enables 4 different amp readings, 4 different volt readings, and one amp hour counter.

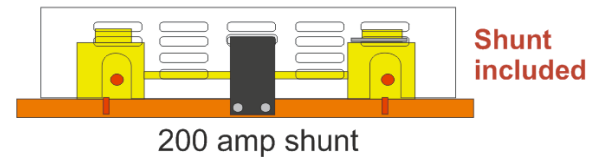
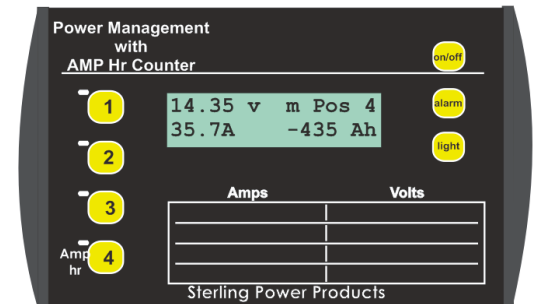
The shunts of the system can be fitted in negative or positive cables (unlike most others). The counter counts the amps going into and out of the battery system. The amp hour counter setup and function are completely automatic and requires no intervention from the user.

The background light ensures perfect legibility in daylight, direct sunlight and at night.

Each panel comes complete with a 200 amp shunt, (up to 3 extra shunts may be purchased) and a list of labels for the panel front.

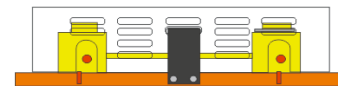
The plastic box can either be surface or flush mounted by using the new parts.

2 year warranty.



200 amp shunt

Extra Shunts available, 200 + 400 amp



200 amp shunt = 200Lx40Wx50H
400 amp shunt = 260Lx55Wx50H

Product	DC Voltage	Unit Size(LxWxH)	Weight lb	Part #
Power Management Panel	12V/24V	7" x 3.8" x 1.5"	0.6	PMP1
Extra shunt 200A				S200A
Extra shunt 400A				S400A

Sterling-Power-USA

IP Code Summary:

Solid, First Digit

Level	Object size protected against	Effective against
0	—	No protection against contact and ingress of objects
1	>50 mm	Any large surface of the body, such as the back of a hand, but no protection against deliberate contact with a body part
2	>12.5 mm	Fingers or similar objects
3	>2.5 mm	Tools, thick wires, etc.
4	>1 mm	Most wires, screws, etc.
5	Dust protected	Ingress of dust is not entirely prevented, but it must not enter in sufficient quantity to interfere with the satisfactory operation of the equipment; complete protection against contact
6	Dust tight	No ingress of dust; complete protection against contact

Liquid, Second Digit

Level	Protected against	Details
0	Not protected	—
1	Dripping water	Dripping water (vertically falling drops) shall have no harmful effect.
2	Dripping water when tilted up to 15°	Vertically dripping water shall have no harmful effect when the enclosure is tilted at an angle up to 15° from its normal position.
3	Spraying water	Water falling as a spray at any angle up to 60° from the vertical shall have no harmful effect.
4	Splashing water	Water splashing against the enclosure from any direction shall have no harmful effect.
5	Water jets	Water projected by a nozzle against enclosure from any direction shall have no harmful effects.
6	Powerful water jets	Water projected in powerful jets against the enclosure from any direction shall have no harmful effects.
7	Immersion up to 1 m	Ingress of water in harmful quantity shall not be possible when the enclosure is immersed in water under defined conditions of pressure and time (up to 1 m of submersion).
8	Immersion beyond 1 m	The equipment is suitable for continuous immersion in water under conditions which shall be specified by the manufacturer. Normally, this will mean that the equipment is hermetically sealed. However, with certain types of equipment, it can mean that water can enter but only in such a manner that produces no harmful effects.



Table contents courtesy of the *International Electrotechnical Commission*



ProLatch R

Latching relay control

STERLING
POWER



A versatile, 0 volt drop latching relay

The **ProLatch R** is not a conventional relay. A conventional 80A/ 12V relay would consume 450mA 'staying on'. This is fine when using a 70A alternator. However, when using a 60W solar cell on a typical cloudy day the output is around 400mA, the conventional relay therefore renders the solar cell useless.


The **ProLatch R** is designed to 'lock into position' and will not consume power by 'staying on.' The only current drawn is to run the internal software which amounts to about 0.5mA (900x more efficient). This makes the **ProLatch R** ideal for use with solar cells or wind power, where every little counts.

IP68 fully -
waterproof



designed and made in England

The **ProLatch R** can be set to trigger 'on' and 'off' at certain voltages according to the user's need. 'On' voltages can be set from 10.7V - 14.8V and the 'off' voltages from 10.4V - 14.5V. There are also factory preset voltage trigger points which are suitable for 95% of applications.



Remote control functions (optional)

- 1) Input voltage
- 2) Output voltage
- 3) Optional water proof display, encapsulated electronics
- 4) Various override to allow lights to be switched on for safety (only available with remote)
- 5) Sleep: power saver function
- 6) Audible alarm stop
- 7) Audible alarm disconnect
- 8) Back light option on/ off
- 9) Background light colour change depending on function
- 10) Relay circuit opened or closed indicator
- 11) High voltage trip alarm and low voltage warning

Principle Features:

IP68 - fully waterproof

✓ **Charging mode - Uni / bidirectional.** When the **ProLatch R** is installed between 2 batteries (e.g. engine starter and auxiliary) it works as a **bidirectional** voltage sensitive relay (i.e. The trigger voltage on the input or output will activate the relay). The **ProLatch R** will latch when the alternator is active allowing current to flow from the starter to the auxiliary via the **ProLatch R**. In contrast, if there is a solar cell/ wind gen / other charging source on the auxiliary battery bank it will also activate the relay and allow charge to flow to the starter battery. The **unidirectional** setting is triggers the activation of the relay by the voltage on the input stud *only*.

✓ **Battery protection mode** - The **ProLatch R** prevents the over charging or over discharging of batteries. In order to prevent over charging, the relay disengages at a preset voltage or a voltage you specify (e.g. 14.4V). Therefore the battery will disconnect from the charging source. Conversely, to prevent battery depletion beyond a certain voltage, the relay will prevent charge from being drawn by the draining source (appliance). The device alerts the user by switching the power 'off' for 10 seconds and then back 'on' for 1 minute. This function saves the battery and does away with those large replacement bills faced by hiring agencies.

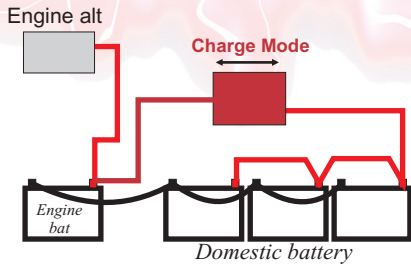
✓ **Engine start protection mode** - The **ProLatch R** can also be used on vehicles where all appliances are run from one starter battery (due to warranty or footprint reasons) such as: lorries, mobility vehicles and vans with inverters etc.. The **ProLatch R** allows your appliances to run safely from an engine starter battery without its voltage dropping below the engine starting voltage. If the voltage drops below the starting voltage the appliance will be cut off. It 'saves the day' by always allowing you to start the engine.

Visit the Sterling website for the latest products and news www.sterling-power.com

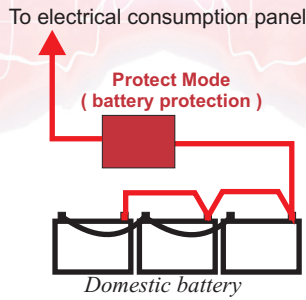


Common applications - examples -

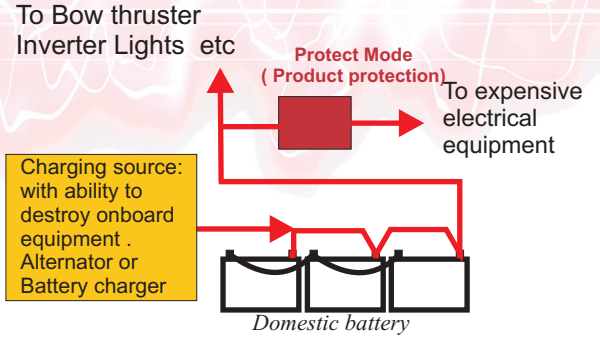
Voltage sensitive charging relay



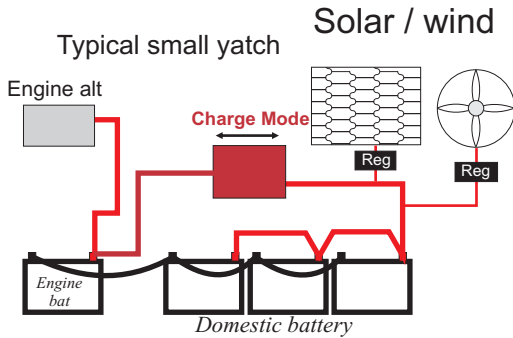
Battery protection



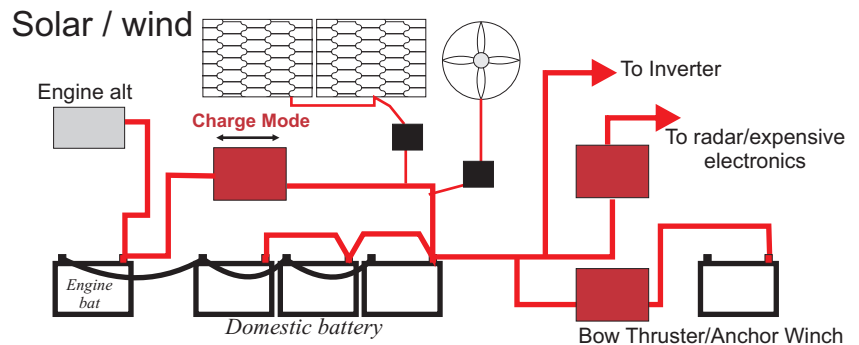
Product protection mode



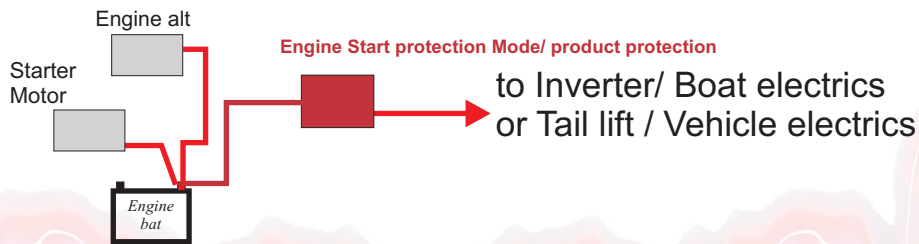
Voltage sensitive charging relay



Multiple use on small boat



Engine Starter Battery Protection Mode



Part Number	Continous Current	Max Interrent Current	Quiescent Current ma	Input voltage	Output stud	Pre set voltage (can be adjusted if required)		
						Battery protect	Starter Protect	Charging mode
LR80	80	500	0.5	12/24 auto	6 mm	Off 11v on 13v	Off 12.4 on 13v	on 13.3 off 12.9
LR160	160	1000	0.5	12/24 auto	8 mm	Off 11v on 13v	Off 12.4 on 13v	on 13.3 off 12.9
LR240	240	1500	0.5	12/24 auto	8 mm	Off 11v on 13v	Off 12.4 on 13v	on 13.3 off 12.9
LRR	Latching relay remote with 5 metres of cable , for longer use standard telephone cable extension							